

ON JOINT SCRAPING;

WITH

TABLE OF CASES TREATED.

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ON Nov. 1st, 1882, a boy aged six came under my care at the Cumberland Infirmary with disease of the knee-joint. The case is recorded fully in the writing of Dr. Leith Waters, then house surgeon, and I give a brief abstract of it as an introduction to what is to follow on the subject of joint scraping. The knee was flexed and tender ; a sinus existed on the outer side of the thigh, from which from half an ounce to an ounce of pus drained daily ; a probe did not enter the joint. The boy was pale and emaciated. The disease was traced to an injury some six weeks previously. On Nov. 18th an ordinary semilunar incision was made as for excision of the joint through the patellar ligament, and the posterior part of the internal condyle of the femur was found softened and carious ; it was scraped, the scraping of the softened tissue resulting in the formation of a hollow in the substance of the condyle ; the crucial ligaments were softened and infiltrated, but the joint was otherwise in a fair state of health. The wound was stitched up and a back splint applied. At the end of March, 1883, the joint was put up in a stiff bandage, and

¹ Paper read before the Carlisle Medical Society, Dec. 13th, 1883.

the boy went home wonderfully changed in appearance for the better. The lad never came back as desired, but during August, 1887, I found him out, and heard that the joint had discharged for eighteen months after he got home, and then healed up. I found ankylosis present at a bad angle. The upshot of the surgical procedure in this case was a surprise to me. I had not intended to stop short of excision of the entire joint; but, finding the disease so localised, it seems that we determined at the time to try what scraping out the diseased part would do.

In the spring of 1887 I heard from Mr. H. W. Page, of St. Mary's Hospital, that a new method of dealing with joints was being tried. He called it "arthrectomy," the chief feature of the operation being that all disease, whether in synovial membrane, cartilage, or bone, was carefully removed with a sharp spoon, and it is entirely due to my conversation with Mr. Page on this subject that I am in a position to draw attention to joint scraping.

It appears to me that in the treatment of joint affections, as in the treatment of many surgical affections, efforts are being made to break away from the routine treatment of past years. Formerly amputation was then the only treatment for diseased joints; afterwards came excision. Short as has been the reign of excision, and hardly perfected in many of the needful appliances, we have been led to believe that excision has been resorted to too freely, and that rest and drainage are all that are necessary to cure many cases of diseased joints; this, I take it, is the outcome of Sir Joseph Lister's work. The last suggestion which has been put into practice seems to me a sort of compromise between excision and rest with drainage. The joint is to be laid open and the diseased parts cleared out, with a hope that ankylosis or perhaps even a movable joint may result; at

any rate, excision of the diseased joint by a less severe method than that which succeeded amputation. In any case the movement is one which every surgeon will welcome, and it is one which will ultimately mark the last quarter of the nineteenth century.

First a word on the difficulties attending excision of the knee: for difficulties there are which have been recognised on all sides, or else why so much ingenuity displayed upon splints for use after operation? I cannot say how many methods I have seen, from Dr. P. H. Watson's plaster and iron rods to Mr. Marrant Baker's skewers for fixing the bones. The difficulty of fixing the ends of the femur and tibia and obtaining ankylosis in good position is due to the fact that excision thoroughly loosens the entire joint; frequently, in order to obtain good position, more bone is removed than is really needful—as where there is a subluxation or semi-flexion. Sometimes several slices of bone require removal before the limb can be put on a back splint, and this means severance of all ligamentous attachment between the bones, lateral and posterior. For subluxated joints it is probable that the bones must still be sliced away, in many cases unnecessarily so far as the disease goes.

I venture to express an opinion that it is occasionally difficult to tell exactly where diseased tissues end and healthy begin, especially where bone is concerned; hence, rather than leave any doubtful tissue behind, the surgeon follows the rule of a “complete removal of diseased parts” as essential to success in excision of the knee. Bleeding from the cut surfaces of the bones is sometimes very troublesome and difficult to arrest. Given an ordinary excision of the knee, with a moderate amount of bone removed, good position, and absence of much hæmorrhage, and yet the

result is often amputation. This may in some instances be due to the entire disease not having been taken away ; bone surfaces are perhaps clear, and much synovial gelatinous degeneration also cut away, but much that escapes the eye may be stitched up in the wound and lead to failure—at least, I am sure that it has been so with me. “All portions of diseased synovial structure that can be safely dissected off should be removed,” said the late Mr. Spence, a remark which seems to imply a difficulty in dissecting everything away.

In the operation of scraping out a joint, the principle favoured by Mr. Bryant—viz., “the least sacrifice of parts”—is held in view, and as such should at least command the attention of all surgeons. Tedious as it may be to scrape out a large joint, hand-aching, and very dull to an onlooker, yet the saving of a limb is the goal to be kept in view. Taking the cases seriatim, I will glance at them as briefly as possible. (See accompanying table.)

1. Hannah B—, aged twenty. Knee diseased eight years. No sinus. On opening the joint, the cartilage was almost all gone, and the bone diseased throughout the joint. The case did well. I should add that the crucial ligaments were left. The patient can walk, though the knee is stiff. Osseous ankylosis is present, but there is no shortening. Patella left. (Exhibited to Society.)

2. Jane P—, aged three. Pus in knee-joint, with pulpy disease. Little or no change in cartilage. No sinis. The crucial ligaments were sacrificed during the scraping. The case did well, and osseous ankylosis at a slight angle resulted. Patella left.

3. The next case was an ankle Mary J. B—, aged five. Entire ankle diseased, the joint being soft and swollen, with numerous sinuses, which discharged pus freely. The

entire joint was scraped out, the astragalus included. The child was very strumous and weak. She ultimately did well, and had a sound joint, though the foot was much shortened. (Exhibited to Society.)

4. The next case was knee No. 3. Elizabeth S——, aged nine. The knee was subluxated, and had numerous sinuses. Limb attenuated. General health not broken down. On scraping, pulp and pus were present; cartilages destroyed; osseous surfaces soft; patella scraped away; crucial ligaments gone; femoral epiphyses scraped away. This case was in the balance for a long while, was finally amputated on Aug. 17th, 1888, and recovery resulted.

5. The next case was another knee. Mary Jane G—— (date Aug. 29th, 1887). No sinuses. Knee enlarged. The child was puny, and had spinal curvature. On scraping, pulpy disease was present; no pus; commencing ulceration of cartilage; bone subjacent red and soft; epiphyseal cartilages exposed; one crucial ligament left standing. The case took a long time to recover, but did well. The child is paraplegic from spinal disease.

6. The next case was a hip in a delicate boy of eight years of age. There was a large abscess of the hip-joint; no sinus existed. The joint was scraped out. Head of femur soft; scraped away. Acetabulum scraped out. The case hung in the balance for some months, but death occurred from brain disease in March, 1888. This was the first hip case operated on.

7. The seventh case was another knee. Frederick G——, aged twenty two. The disease had existed eight years; no sinus. On scraping the joint I cut away the patella at once. Cartilages of joint diseased and loosened; underlying bone soft; crucial ligaments left. The case did not do well, and amputation was performed on June 6th, 1888.

8. The next case was the second hip operated on—an unfavourable one for any treatment. An abscess had been opened in the thigh, and the scraping was secondary to this by two months. The head and neck of the bone were scraped away, and the acetabulum scraped out. I thought it possible that it might even be perforated. The case did badly; abscesses formed repeatedly; high temperature was kept up, and death by hemorrhage ended the case in October, 1888, five months after the scraping.

9. This case was the second ankle. Abscesses of the joint had been opened previously. The limb was wasted and the boy rather hectic. His age was twelve. The ankle-joint was filled with pulp and pus; the osseous parts were soft, and the cartilages gone. The astragalus in this case also was scraped away. The case did fairly for a time, but continued pain and failure to heal necessitated amputation on Sept. 12th, 1888, recovery ensuing. (Died later on with phthisis.)

I have thus operated on six knees, have lost no patients, but had to amputate two of them. I have operated on two ankles, one of which did well, and the other was amputated. I have had two unsuccessful and fatal cases of hip disease, where scraping was tried. These two cases would not have done well or better by ordinary excision, and were certainly unsuitable for hip amputation.

Evidences of failure after scraping will be found, clinically, in continuation of more or less elevation of the temperature, general failure of the patient's nutrition, persistence of pain on palpation of joint, and failure in obtaining a certain amount of ankylosis. Thus, the ankle scraped out on June 11th, 1888, was amputated on Sept. 12th following, the joint being as loose as a healthy joint, and perhaps looser. The temperature was always up during a part of

the twenty-four hours. There were numerous discharging and unhealthy-looking sinuses; there was tenderness on pressure all over the joint; and the nutrition of the limb was declining. It is somewhat difficult to say when interference is called for in cases where scraping has been tried; but I think that six or eight weeks will probably show how matters are likely to turn out. It is true that I have one case which was not healed for a long time, but there was not that association of those evidences of failure which I have already alluded to. The gradual stiffening of the joint, absence of pain, a normal or nearly normal temperature, and an improved condition of general health are the symptoms which are to be looked for where success is to be expected.

If this method is proved to be of permanent value, and if the joints scraped out remain sound and good, the question arises naturally, to what joints is scraping limited? If the knee and the ankle are joints to which scraping can be applied, what about other joints which are so frequently diseased? It appears to me that at the elbow scraping would be followed by ankylosis, which would render the arm probably useless; and I question whether the free mobility obtained after excision of the elbow in the usual manner could ever be obtained by scraping. This is, however, an open question, and I have not as yet been tempted to scrape out an elbow joint. My two cases of hip disease are not encouraging, but I can say this, that the operations caused far less shock, hemorrhage, and disturbance of parts than excision would have done. I am not sanguine that movement will be obtained even after partial scraping of a joint, and am inclined to think that ankylosis is the end to be kept in view.

In conclusion, I desire to state distinctly that the number of cases operated is insufficient to justify any dogmatic

assertion as to the future of scraping, but that, as a substitute for excision, it is very hopeful and worthy of trial ; that the shock of the operation is not to be compared to that of excision ; that the hæmorrhage is less than that of excision ; the loosening of the joint is markedly less ; the retentive apparatus necessary is but slight compared to that needful after excision ; and the pain of dressing subsequently is trivial by comparison. In some instances where the surgeon is prepared to excise, he may, after the joint is exposed, find that the disease is limited to one part of the joint, as in the first case I treated by scraping, and if this is so the case may be conducted to a happy issue without subjecting the patient to the greater risk of entire excision of the joint.

Carlisle.

Cases of Joint Scraping.

RECOVERIES.				AMPUTATIONS.				DEATHS.			
Date of Operation.	Name	24	Joint.	Date of Operation.	Name.	24	Joint.	Date of Operation.	Name.	24	Joint.
Nov. 18, 1882.	John McA.	6	Knee.	Aug. 15, 1887.	Eliz. S.	9	Knee	Nov. 26, 1887.	Tom J.	8	Hip.
May 30, 1887	Hannah B.	20	Knee	Feb. 14, 1888	Fred. G.	22	Knee	May 16, 1888.	Joseph T.	12	Hip.
June 1, 1887.	June P.	3	Knee.	June 11, 1888	Thomas H.	12	Ankle				
June 5, 1887.	Sarah J. B.	5	Ankle.								
Aug. 29, 1887.	Mary J. G.	5	Knee								

Recoveries, 1; amputations, 3 Deaths, 2 Total, 10.

